

Enhancement of Aquaculture Management

A. Summary of Coastal Management Problem

The Virginia Coastal Resource Management Program has undertaken to date a series of projects that have laid the groundwork for the effort proposed here. Working with the Virginia Marine Resources Commission (VMRC) and the Virginia Institute of Marine Science (VIMS), the Coastal Program has supported several projects including: (1) the development of protocols for management of off-bottom culture activities, (2) an assessment of potential conflicts in some current environmental policies, (3) the development of an educational booklet entitled Guide to Virginia's Laws, Regulations and Requirements for Marine Shellfish Aquaculture Activities and (4) the establishment of a general permit for noncommercial shellfish growing activities. These efforts have identified the need to move to a proactive management posture, and have served to convince the Virginia General Assembly of the importance of that move.

There are two challenges that remain in the development of a comprehensive aquaculture management program in Virginia. The first challenge is the development of tools necessary to guide aquaculture activities to the most appropriate locations and ensure the activity is sustainable. At present, locating and managing aquaculture in Virginia coastal waters is an ad hoc undertaking, with site selection left to individuals interested in the pursuit. The second challenge is the integration of various aquatic and terrestrial management programs in the Commonwealth to preserve opportunities for aquaculture, an important component of the coastal economy, into the future.

B. Identification of Program Changes

There will be two primary program changes:

- (1) Guidance for siting aquaculture in Virginia waters: A protocol for identification of suitable and/or potentially suitable areas of shallow water will be developed. This protocol will then be applied to develop an initial classification of all shallow waters in Virginia. Those waters indicated as suitable or potentially suitable for aquaculture will then be further assessed to develop a list of the probable management issues associated with each. Ultimately this guidance will be incorporated into the review of permit applications.
- (2) Guidance and/or regulations to reduce conflicts and sustain aquaculture in those areas: Existing management tools will be evaluated to identify gaps or needs and new tools will be designed to address these areas.

C. Anticipated Effect of the Proposed Program Change

These proposed changes will move Virginia into a proactive management posture for aquaculture. It will help aquaculture become a successful and sustainable economic activity and the changes will help to link aquatic and terrestrial resource management and reduce use conflicts between different user groups.

D. Appropriateness of the Change

Virginia is actively committed to the growth and development of aquaculture in the Commonwealth and for several years has been pursuing a purposeful, but constant

evolution of strategies. In 2001, the General Assembly passed Joint Resolution HR765 that charges VIMS, along with other agencies, with preparing a management plan for shallow water areas in the Chesapeake Bay and its tributaries. This resolution specifically addresses the need for a suitability model for shallow water areas to help reduce conflict among various user groups and the need for continued growth and development of aquaculture. The long history of significant reliance on fisheries as an economic resource for the state makes continued development of management strategies for aquaculture among the highest priority for managers and policy makers.

E. General Work Plan

The project will require two years of development efforts. During FY 01, VMRC and VIMS will work with the existing Aquaculture Management Advisory Council (AMAC) to develop a protocol for identification of suitable aquaculture areas. Working with existing technical information and guidance from the AMAC, project staff will rank potential conditions for each parameter, in order to identify areas with suitable or potentially suitable conditions. It is anticipated that this protocol will incorporate physical, chemical, and biological conditions of shallow water areas, as well as selected characteristics of adjacent riparian lands. The protocol will be used with existing GIS databases to characterize conditions throughout Virginia's shallow coastal zone waters. The objective is an initial classification of Virginia waters by the end of FY 01. VMRC will staff the AMAC and provide GIS coverages of existing permitted aquaculture activities in Virginia.

During FY 02, each area identified as suitable or potentially suitable will be further analyzed to identify potential site-specific management issues. It is anticipated that these will include multiple and conflicting uses, maintenance of water quality, access management, and others. Again, the VMRC and VIMS staffs will work with the AMAC to identify issues and potential tools, generating a report to inform and guide further development of program changes. The composite list of management issues will be used in an assessment of existing regulations and management strategies. The objective will be identification of gaps and development of proposed new tools to address those potential needs. VMRC will staff the committee, and provide analysis of existing regulations. VIMS will develop alternative management strategies and tools. The outcome of FY 02 efforts will be specific proposals for development of new authorities to regulate and manage aquaculture within target areas. The proposals will be advanced for legislative action as necessary.

Time Line

Fiscal Year 2001 (October 2001 – September 2002)

- Task 1. Identify site specific criteria for sustainable aquaculture (with AMAC and VMRC)
- Task 2. Map potential aquaculture sites using GIS (VIMS will provide the environmental GIS databases and the GIS analysis necessary for the project.)
- Task 3. Validate site identification by comparison with existing aquaculture site data base, and refine targeting as necessary.

Fiscal Year 2002 (October 2002 – September 2003)

Task 4. Characterize management issues for each potential site identified in Task 2 (will include land use, water quality, aquatic resource conflicts, etc.)

Task 5. Review existing regulatory authorities and evaluate capacity to address issues identified in Task 4.

Task 6. Develop alternative management strategies and tools

Task 7. Review alternatives with AMAC and develop recommendations to legislature for new authorities.

F. Summary of Program Costs

	FY 01	FY 02	FY 03	FY 04	FY 05
Personnel VMRC	33,500	33,500	0	0	0
Personnel VIMS	40,000	74,000	0	0	0
Travel	500	1000	0	0	0
Supplies	500	1000	0	0	0
Other	500	500	0	0	0
TOTAL	75,000	110,000	0	0	0

Budget detail:

- Personnel costs = VMRC 0.5 FTE both years; VIMS 0.5 FTE in FY 01 and 1.0 FTE in FY 02

G. Likelihood of Attaining the Proposed Program Changes

Aquaculture is of growing importance in the Commonwealth. As evidenced by VMRC's recent regulatory actions, VMRC's and VIMS' recent studies concerning aquaculture management, and the General Assembly's newest Joint Resolution HR765, there is a willingness on the part of both agencies and the legislature to consider steps necessary to sustain and promote aquaculture.

Aquaculture has the potential to occur in many parts of Virginia's coastal waters, but it will be practically limited to selected areas. This means it will be possible to focus discussions and development of approaches, with clear rationales for proposals. The time line proposed is reasonable given the nature of the subject, the number of interested parties, and the achievements planned.

H. Fiscal and Technical Needs

Funding and staffing levels of natural resource agencies in Virginia are currently fixed, with no new funding likely. Projected surpluses in the Virginia economy have not been realized. Various tax reduction programs compound the likelihood of reductions to agency budgets. This limits the agencies' abilities to undertake new or expanded program activities without outside funding.